Decision *and* Information Sciences

DISC 6A41
Management Information Systems
MBA: Summer 2015

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Purpose:

DISC 6A41 presents a managerial perspective on the effective identification, design, and use of information systems for strategic advantage and operational performance in organizations. Information technology (IT) has a major impact on the productivity of the firm and its employees and, as the world becomes ever more digital, on products, business processes, supply chains, distribution channels, business strategy and competitive positioning. While leading-edge firms, start-ups and individuals harness information technology for competitive advantage, others struggle to master the rudimentary tools and techniques that comprise these systems of hardware, software, data, processes and people. Unfortunately but understandably, a growing number of executives view IT, not as an opportunity, but as an emerging threat to their businesses, consumers worry, or should worry, about privacy and security, while workers and politicians grow increasingly concerned with IT's long run impact on employment and the inequitable distribution of wealth.

The focus of this course is to study users and uses of IT to gain an understanding of the potential of IT as a personal and organizational productivity tool, as a key element of business strategy, and, unfortunately, as an increasingly troubling threat. Here we view IT as a portfolio of tools that can be applied or misapplied to various business problems, processes, and strategies.

Course Philosophy:

There are few right or wrong answers to the problems we will discuss in class. Some strategies work well in some organizations or for some individuals, but fail elsewhere. What we will do is learn from the experiences of others—from case studies, from the news, and from our experiences. All opinions are worthwhile, but not to the exclusion of others. I encourage you to discuss in class, and via the Google +assignment, the IT transformation you see in the news, in your company, in others' companies or at home . We have much to learn and to prepare for - an accelerating amount every year.

Cases:

Rather than using a textbook, ours is a case study-based class. The use of business cases, dating back to the first schools of business, is a tried and true way of gaining deeper, hopefully more meaningful knowledge about the use of information systems in organizations. An integrative approach to case learning suggests that what we learn from a case can be enriched by what we have already learned from other cases and from life. We eventually ask ourselves, "how is *this,* like *that*?" This leads to the application of what is learned in the case to other situations you may face at work.

The case method works, but only if we all come to class well prepared. To ensure that happens, a significant portion of your grade will be based on attendance, the quality of your participation, and quizzes administered in classes 2-5. In addition, I may make cold calls. (Further information about attendance and your participation score appears below.)

When reading and analyzing a case, make sure you understand the setting (e.g. the industry, products/services, time period, competitors, regulations, changing buyer requirements, substitute products, barriers to entry). Porter's Competitive Forces model (see the "Models" list) is often useful here. Next, make sure you understand any financial information presented. Following that, make sure you understand the actors in the case in terms of their role in the organization, their motivations, their biases, etc. Next, familiarize yourself with the actions that have occurred thus far in the case. Ask yourself, "who did what when and why". Now begin to think about the decisions to be made. What are the alternatives? Do you have enough information? Is some information missing? Along the way, have you noticed how certain decisions, actions or other parts of the case seem to be familiar and might be integrated with other material or your own experience? Finally, consider a recommendation. What would you do if you were in this situation as described in the case?

Some may be inclined to find out what has happened to the firm since the case; sometimes I will provide an update. These follow-ups, while often interesting and informative, should only brought up at the conclusion of the case discussion.

Study questions are included in the syllabus to help shape your contributions to the class discussion. I encourage you to first quickly skim the case, then look at the discussion questions, and then read the case with care. Finally, return to the discussion questions to see what insights you can draw.

Models: As with other disciplines, MIS has a set of underlying models, laws, theories and frameworks that undergird the way we think about, research about and teach about the use of information systems in our organizations and our lives. Unlike other disciplines, however, the multi-disciplined, integrative nature of MIS draws these resources from all over. In this class we will see models from marketing, laws from computer science, frameworks from accounting, etc. For each day, I have tried to list "Today's Models" (a term that encompasses models, laws, frameworks, etc.) that will help us think about the associated topic. However, just because a model isn't listed for a particular topic, doesn't mean it isn't relevant. Moore's Law, which we will frequently refer to, is a great example; it can be used to apply to a wide variety of topics. Some of the models we will explicitly discuss, while others are listed for reference, with details easily found on the internet. In some cases, there are a lot listed, but don't worry, I'll highlight those that are important for our discussions and that might be quiz fodder. In any case, they are pretty short and to the point.

Grading: Grades will be based upon the following distribution:

Daily Quizzes	30%
Participation & Attendance	35%
Google + Assignment	20%
Internet ID Assignment	15%

Grade	*Percentage Ranges*
A	100 - 93%
A-	92 - 90%
B+	89 - 87%
B	86 - 84%
B-	83 - 80%
C	79 - 70%

Class and Case Discussion:
Participation evaluations will be based primarily on the quality of the contributions. Assuming you come to, and stay for the entirety, of at least four of the five scheduled classes, your participation grade will start as a B- (82) and can be enhanced by your participation, particularly in case discussions. If you miss more than one full class or if you leave early for two classes your participation score will start at D (65) and might also receive a grade of zero for the quiz (if you already missed one). [Be forewarned that **if you miss two classes, your maximum grade possible for the entire class will be a B-; if you miss three or more classes you will receive a failing grade. If you know in advance that you will be missing three or more classes, you should drop the course now. If you know you will be missing two, you should consider dropping. There will be no exceptions.**

However, there are two sections of this class and both meet in the same room. If you notify me in advance, and alert me in the make-up class, you will not be penalized. However, the Thursday version is ahead of the Tuesday one. Thus if you are in the Tuesday section and know you will miss next week's Tuesday class (e.g. July 21st) you will need to come both Tuesday (July 14) and Thursday (July 16) the previous week's Thursday class (July 16. On the other hand, if you are in the Thursday class, and will miss July 16th, you can make it up the following week, on Tuesday July 21st, and then attend your regularly scheduled class on Thursday the 23rd. That means a double class prep and quiz for those make-up weeks. The dates of particular classes for both sections are listed in the syllabus.

Note that your participation grade can be negatively impacted by non useful contributions such as those that digress from the discussion, being disrespectful to classmates, repeating points made by others, falling asleep, failing to pay attention, and being unprepared when called upon.

Attendance

Attendance is required, but emergencies and other contingencies will arise. Thus there is no penalty for missing one of the classes, and one quiz will be dropped - either your lowest score or a quiz missed due to absence. You will, in any case, be responsible in the following week's quiz (e.g., July 28th / 30th) for material included in the slides for the previous week (e.g., July 21st / 23rd) . If you choose to enter the class on week two, the missed first week will be considered your one free pass, though, as there is no quiz that day, you will still have an opportunity to drop your lowest quiz grade if you miss no other classes.

Attendance will be taken, and participation assessed, by **attendance tent cards** picked up at the start of class and handed to me personally at the end of class (**or during class if you must leave early**. Both your first and last name should appear on one face to the tent card - the first in letters large enough to be read from the front of the class. The other face should have your first name, for the benefit of students sitting behind you.

While not required, you are welcome to write your own participation notes inside the tent card, highlighting points you want to ensure that you get credit for having made in class - if you choose to make such notes, please designate the case you were commenting on (e.g., "Harrahs: To succeed, the CRM required completely restructuring the organization, thus creating a distinctive competency that could be leveraged").

Daily Quizzes

For each class, after the first, there will be a quiz; quizzes will consist of twelve questions of which you will get credit for the first 10 correct answers. In other words, if you get 10, 11, or 12 correct you will get full credit (ten points will be entered in the grade book) for the quiz, but if you miss, for instance, 5, 4, or 3 questions, you will receive 7, 8 or 9 points. Quiz questions will be drawn from the assigned day's case studies as well as from the previous week's lecture slides. A sample quiz will be given on week one which will not count. Note, there is no final examination. **There are no make-up quizzes and if you arrive five minutes or more after the quiz has begun you will not be able to take it.**

Homework: There are two homework assignments. These assignments are to be completed individually.

1. Google +

The first homework is to participate in the social network called Google +. The assignment has three components due at various times in the semester and described below:

Part A: Subscribe to Google + and follow me (Blake Ives). Your assignment for week one is to establish your profile which will include your name (you may use initials for your first and middle name if you would like to maintain some privacy), a picture of yourself and as much information as you wish to share. At least include in your profile that you are members of the Tuesday or Thursday MBA class so I can add you to the appropriate circle. Also, by the due date send to me an email at blake.ives@uh.edu including in the subject line either Tuesday or Thursday, depending on your class. In the message itself identify five or more (in descending order of enthusiasm) of the following topics that you might wish to learn more about (or other, IT topics that might be of interest to others):

1. Bitcoin /Stellar (SCP)
2. Internet for the next 3 billion people
3. IBM's Watson in Healthcare
4. IBM's Watson in Finance
5. IBM's Watson and Customer Service
6. Smart Dust (Nanochips)
7. Nano Machines (nanorobotics, nanobots)
8. Nano factory (Molecular Manufacturing, molecular assembly)
9. 3D printing in food production (in vitro meat)
10. 3D Bio printing
11. Impact of 3D printing on Supply Chain & Distribution
12. Biochips
13. Big Data from small phones
14. Neuromorphic Engineering/Technology (chips that mimic the brain)
15. Post Silicon Computers (e.g., Quantum Computing, optical DNA Molecular)
16. High Frequency Trading
17. The Flash Crash (what do we know now?)
18. HP's "The Machine" (memristors)
19. Future biometrics (i.e.., post iris scanning)
20. The Smart Retail Store and/or Fashion store
21. The future of IT-enabled healthcare
22. shodan.com
23. slack.com

24. Virtual Reality /Augmented Reality (e,g, Magic Leap, Oculus Rift)
25. Deep Learning
26. Next Generation Robotics (e.g, swarm robotics, smart robots)
27. Drones in Business
28. Genetics & IT (Digital genome / internet of DNA)
29. "The Singularity
30. The Dark Web
31. ROS (the Robot Operating System)
32. Open Government Data
33. Nation State Cyberwar (post Stuxnet)
34. Smart Policing
35. Crowd Funding

Part A is due by midnight the day after the first class and is worth 5 of the 20 points. One point will be deducted for each day it is late.

Part B: By the second class I will identify six to eight topics that the class will focus the remainder of their Google + assignment on. These will be drawn from the interests you have identified, but there is no guarantee you will get your choice (thus, the need to identify several topics and the suggestion you work with others in identifying them). Once I announce the topics, you can self-select into one or more and notify me which one(s) you have chosen. You should create a circle for the group focusing on that topic and another for the entire class (I will help you with this once I know what your choices are). You will also want to add to your interest circle people outside of class to follow. For instance, if you have an interest in 3D printing, find interesting people in that area of expertise who are frequent contributors to Google +. [Please note, that I am hereby discouraging you to follow your relatives, neighbors, high school chums, or past, or current, significant significant others. Leave that to Facebook. Use Google + as a professional tool, but one somewhat different than LinkedIn.[**Part B is due by midnight of the day following the second class and is worth 5 of the remaining 15 points. One point will be deducted for each day it is late**.]

Part C: Throughout the remainder of the class, I expect to see you sharing with class members, group members, or other circles that you might identify, information of professional interest related to your topic. To ensure I see your contributions, unless you are posting to the entire class (which you are expected to do at least three times), please make sure you include me on your postings.

2. Personal Internet ID: "Marketing Me!"

What's your Brand? Increasingly, we are evaluated by our online presence. The judgement might be that of an admissions officer, an HR department, a mortgage company, a potential investor in your KickStarter campaign or a future spouse or his or her parents. Most of us use the internet, and social networks for both personal and business reasons. Sometimes this dichotomy can prove painful (e.g., a friend's unfortunate high school Facebook posting of a indiscreet picture of you five years later might turn off a straight-laced interviewer, a shoddy student project a team member put up on YouTube that is, without your knowing it, dismantling your job search, a drunken rendition of you and friends singing a little ditty that a "friend" later posted on YouTube, or a poorly considered tweet before your plane takes off that finds you fired upon landing - http://www.theguardian.com/world/2013/dec/22/pr-exec-fired-racist-tweet-aids-africa-apology). On the other hand, the internet can provide a rich, positive, even hands-on view of you and your accomplishments that a resume can only suggest.

For this assignment you are going to make a dispassionate evaluation of either your own, or, with permission, someone you know's identity as revealed on the internet. Choose this latter option only if you have not yet established a significant presence online or have been required by someone to minimize or eliminate it.

In doing this assignment you should address the following points.

1. Include a name and one paragraph bio to identity yourself or the individual you are exploring. Include links to any substantial, publicly accessible online resources that pertain to you or your target subject.
2. Identify the various social networks that you (or your target subject) belong to and how you both present and protect yourself on each. (For this question, and others below, you may include screen shots if you wish.) Among obvious social network candidates are Facebook, Linked-In, Pinterest, Google +, Twitter but you may also have some golden oldies hanging around from high school (e.g., MySpace).
3. Imagine yourself as a future employer. Conduct a general search of the web for you (or your subject), looking for material that might be problematic if seen by a potential employer, love interest, or cyber criminal. Look to at the privacy settings on your social network sites. Describe any concerns that emerge from your sleuthing.

4. Identify any individuals with a similar name that might prove problematic if confused with, and not clearly distinguished from you (or your subject). Also check out the various domain names that might include your name (e.g., blakeives.xxx)
5. Prepare a set of criteria (at least four) that you will use to assess your professional persona as revealed on the internet.
6. Use each of those criteria to assign yourself a letter grade for each criteria, with a brief explanation and for your overall online presence.
7. Describe any steps you are taking, intend to take, or will be recommending to enhance your, or your subjects, professional identity / branding as revealed on the internet. You might find the following audio interview with Nicole Williams, a career management expert at LinkedIn, to be helpful: http://www.marketplace.org/topics/your-money/ask-money/getting-most-out-linkedin. Here's another one entitled, "How to Draw Attention to Your LinkedIn Profile: http://www.siliconvalley.com/ci_27844768/how-draw-attention-your-linkedin-profile?source=rss_viewed . If, on the other hand, you have chosen to avoid being a public person on the internet, provide a convincing explanation, focusing on both the advantages and disadvantages.

Other resources:

You will use Blackboard to send the file for assignment 2 to the file server. All electronically submitted documents must contain your name.

Schedule

Class 1: Thur July 9 / Tues July 14

Information Systems in Organizations: Information systems are ubiquitous. They touch many aspects of our work lives and personal lives. In today's class we outline the various elements of information systems that we will cover in this module. We will look at the role of IT in the organization and implications for the "new" economy. We will set the stage for the use of information technology in the organization and in business. We will also introduce some of the risks and threats that information technology has introduced or amplified in today's, as well as tomorrow's, organizations and our society.

Today's Models: *Data-Information-Knowledge-Wisdom Model, *General Systems Theory, *Five Components of an Information System, * Knowledge-based Theory of the Firm. *Computer Performance vs Human Performance, *Garter Hype Cycle.

NOTE: It is essential that you read, and be prepared to discuss, the Mrs. Field's and Bain & Co. cases before coming to the first class!

Assignments:

a. CASE: *Bain & Company's IT Practice (*9-606-010)
b. CASE: *Mrs Fields, Inc.--1977-87 (*194064-PDF-ENG)
c. Homework 1a due by midnight on the day following this class

Discussion Questions

Bain & Co.

1. Why is Bain, a consulting firm known for its prowess in strategy and generalist focus venturing into IT?
2. How important is IT to business success today?
3. What gets in the way of that success?
4. Who will Bain IT Consultants interact with in client firms?

Mrs. Fields Inc.

1. Describe a typical day at work for a Mrs. Fields cookies store; a district store manager; a regional director of operations; Randy and Mrs Fields. What role does IT play in defining the nature of work at each level
2. What management choices did Mrs Fields face in designing their organization?
3. How easy or difficult would it be to migrate the Mrs Field's management scheme to another institution.
4. How might you imagine information systems at a Mrs. Field's today differing from that described in the case?

Class 2: Thur July 16 / Tues July 21st

How IT Impacts Strategy and Organization Design: A major theme of the course is the alignment of IT with business strategy and organizational structure. Strategy is a process that turns vision into action. After an organization's leaders define its vision and goals, strategies for attaining those goals must be devised. Wouldn't it be great if we just bought a bunch of computers, turned them on and immediately gained a competitive advantage? We'll that's not how it works. So how DOES it work? The use of IT for competitive advantage has received a lot of attention. In today's organizations, many of those strategies are hindered, moved forward or even enhanced by the use of information

systems. In some cases, the strategy is made up entirely by information systems. In this module, we explore the role of the information systems function in the context of organization design and strategy.

Today's Models: *Applications Portfolio Taxonomy, *Alignment, *Anthony's Pyramid and MIS, Barney's Resource Based View of the Firm, *Bounty & Spread, Butter's Law of Photonics, *Coase's Transaction Cost Theorem, *Cost Structure of Software, Hendy's Law of Pixels, *General Purpose Technologies, Gilder's Bandwidth Growth Law, *Human Social Growth, *Koomey's Law*Moore's Law, *OODA Loop, *Porter's Competitive Forces Model, *Sharing Economy, *SWOT Analysis,

a. CASE: *Information Technology at Cirque Du Soleil: Looking Back, Moving Forward* (HEC039)
b. CASE: *Harrah's Entertainment, Inc.: Real-time CRM in a Service Supply Chain* (GS50-PDF-ENG)
c. Homework 1b due by midnight the day after this class met (penalty risk)

Discussion Questions

Cirque Du Soleil

1. Describe how the touring show life cycle is now supported by IT. While reading the case, you can access Cirque's website and see actual applications.
2. How well aligned was Cirque du Soleil's IT with its business in 2008?
3. What was the level of tension between the business needs and IT capacity?
4. What are the key requirements, in terms of IT architecture, of the support provided by IT at Cirque du Soleil?

Harrah's

a. Who is Harrah's typical customer? How does the system help to identify and target them?
b. Assume you're the CEO of a local Harris Casino, how would you feel about the database marketing strategy as it was being rolled out?
c. How dramatic a change is this for operations at a local casino?
d. How easy would it be for a competitor to copy this strategy or, looking at this another way, how sustainable is the strategy?
e. How generalizable is Harrah's approach to database marketing to firms in other industries?

Class 3: Thur July 23 / Tues July 28

Focusing on the Customer: Social Networks / How IT Affects the Value Chain: Electronic commerce is certainly the buzzword that has defined the late 1990s and early 2000s. What's the big deal? It's just using a bunch of computers to do what we've been doing for hundreds of years, right? In today's class we will take a look at how technology is, and will continue, to transform e-commerce and the value chain. With our two cases we will see organizations harnessing social networks and Customer Relationship management (CRM) systems to business strategy.

Today's Models: *Anderson's Long Tail Model, *Dunbar's Number, Levitt Product Life Cycle Model, *Lock-In, Marketing Mix-Traditional (4 P's), Marketing Mix - Extended (7 P's), *Metcalf's Network Value Law, *Network Effect, *Porters Extended Value Chain, *Roger's Adoption Process, *Roger's Diffusion of Innovation Models,, Sjoberg's Law of Public Cliquishness, *Social Network Theory, Telecosmic Price Elasticity *Twelve Principles of the Network Economy

Assignments

a. CASE: *Hilton Hotels: Brand Differentiation through Customer Relationship Management (* 809029-PDF-ENG)
b. CASE: *Coca-Cola on Facebook (* 9-511-110)

Discussion Questions

Hilton Hotels

1. What is Hilton's core business?
2. Evaluate the performance of the Customers Really Matter initiative to date
3. What do you think Hilton leadership should do after the Blackstone acquisition? Should they further invest in CRM or simply maintain the status quo? What aspects of Hilton's CRM should be strengthened, if any, and how?

Coca-Cola on Facebook

1. How are brand pages different from regular Facebook pages?
2. What were the key parts of Coca-Cola's decision to partner with Dusty and Michael?
3. How do Coca-Cola's and Starbucks' strategies differ?
4. What are the risks of allowing fan pages deliver your marketing message? What steps could Coca-Cola have taken to regain control of their brand?

Class 4: Thur July 30 / Tues Aug 4

IT Development and Implementation: As information technology is distributed throughout the organization, more and more "end users" are called upon to help manage the design and implementation of the IT. Many studies have shown that user-lead teams produce systems that are more effective and better accepted. Today we will cover topics that will help focus attention on the critical design and project management issues that surround IT development so they can ultimately add value to our organizations.

Today's Models: Amara's Law, Amdahl's Law on Expected System Improvement, *Brooke's Law from Mythical Man-Month, Classen's Law of Technology Usefulness, Conway's Law, *Delone and McLean IS Success Model, Henderson's Experience Curve Model, *Hofstadter's Law, *Information Processing / Overload Theory, *McFarlan's Portfolio Model, * Nelson's IT Project Success Model, *Parkinson's Law, *Technology Acceptance Model.

Assignment:

a. CASE: The ObamaCare Website (W14026)
b. CASE: Building Watson: Not so elementary my Dear (9-612-017)
c. Assignment 2 Due by Midnight via Blackboard

Discussion Questions

The ObamaCare Website

a. Who are the key stakeholders?
b. What is the purpose of the Healthcare.Gov web site?
c. What's the problem? What's going wrong at the time of the case?
d. What is "integration?" Why is it so difficult?
e. Where do you start in building a system like this?
f. How risky a project is this? Why?
g. Given the circumstances, what should Sebelius do?

Building Watson

a. How different is the question answering problem from search?
b. What did the funnel of ideas look like? Did they know if new algorithms were broadening the funnel, or was this purely trial and error?
c. What is the approach to product development? How did it change?
d. What opportunities are there in your business to apply Watson-like technology?

Class 5: Thur Aug 6 / Tues Aug 11

Social Issues and the Future of IT

Information technology can be used in a variety of circumstances; it can also be missed or lead to unintended consequences. Sometimes the outcomes are annoying; in other cases they can be devastating. The legal, security and ethical challenges affecting the use of IT usually create a lot of discussion. We will look at the ways others can gain information about you and your company and the importance of system security and ethical guidelines regarding intellectual property and privacy. We also will consider our growing dependence on information technology and it potential adverse impact on employment and income inequality.

Then, gazing into some crystal balls, we're going to take a look at trends and new technologies that are about to change the way we use and think about information systems. This isn't some sort of "Dr. Science" sort of class, but we'll look at the trends that help us make good IT investment decisions in the future.

Today's Models:

Communication Privacy Management Theory, Privacy Regulation Theory. Keyne's Law, Kerckhoff's Principle, Kranzberg's Laws of Technology, *Mason's PAPA Model, McGahan's Model of Industry Trajectory Change, Productivity Paradox Part I, Productivity Paradox Part II, Say's Law, *"The Singularity."

Assignments

a. *CASE: Target: How to Steal a Million* (on Blackboard)
b. CASE: *Hatsune Miku: Japanesee Virtual Idol Ignites Global-Value Co-Creation (Ivey W14631)*
c. Assignment 1C due by Midnight, August 13

Discussion Questions

Target Discussion Questions

1. Identify the failures leading up to the Target data breach?
2. What fixes would you propose for Target?
3. How effective was Target in communicating to their customers about the breach?
4. Weight the potential costs and benefits of perpetrating data breaches from the perspective of the hacker.

Hatsune Miku

1. How does HM compare to other teen rock stars?
2. What are the keys to Hatsune Miku's success-as an idol and as a business?
3. In what ways has Crypton Future Media's commitment to value co-creation increased the long-term value of the HM “brand?” In what ways has this hurt HM’s long-term value?
4. What would you imagine an HM character looking like in ten years?
5. What industries might be transformed?